UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,374	09/27/2001	Sahil Bansal	CX03015USU(00CXT0352D)	5097

7590 11/30/2005	EXAMINER
Francisco A Rubio-Campos Esq	AHMED, SALMAN

ART UNIT	PAPER NUMBER
2666	

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DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/966,374	BANSAL ET AL.
		Examiner	Art Unit
		Salman Ahmed	2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 September 2001</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-46</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-9,11-13 and 24-46</u> is/are rejected.

7) ☒ Claim(s) <u>10 and 14-23</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>27 September 2001</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because it contains an embedded hyperlink and/or

other form of browser-executable code. Applicant is required to delete the embedded

hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

The specification contains the following hyperlink (page 1 line 28):

<http://www.cablemodem.com/specifications.html>

Applicant is required to delete the embedded hyperlink. See MPEP § 608.01.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2.   Claims 1, 2, 3, 25, 26, 27, 30, 32, 33, 36, 37, 39, 40, 41, 42, 43 are rejected

under 35 U.S.C. 102(e) as being anticipated by "DOCSISTM cable modem technology",

Fellows et al. Communications Magazine, IEEE Publication Date: March 2001,

hereinafter referred to as Fellows.

In regards to claims 1, 2, 3, 4, 5, 6, 25, 26, 27, 30, 32, 33, 36, 37, 39, 40, 41, 42,

43 Fellows teach a cable modem (page 202, section: Introduction, a cable data system

consists of multiple cable modems (CMs), in subscriber locations), capable of filtering

upstream scheduling messages in a data communication system (page 202, section:

Introduction, cable system), wherein the cable modem is coupled to a cable modem

termination system (CMTS) (page 202, section: Introduction, a cable modem

termination system (CMTS)) , and wherein the data communication system transports

data using a plurality of upstream scheduling messages (page 206, section: Ranging,

CM transmits a ranging request message to the CMTS) and a modulation scheme

(page 203, section: Physical Layer Protocol, CM, is configured with at least one set of

defined physical layer parameters — modulation) including an upstream and a

downstream transmission path (page 202, section: DOCSIS protocol stack, The CM will

receive an IP packet from host customer premises equipment (CPE), typically over

Ethernet, and will add link encryption, mediate access to the return path, and finally

modulate the data onto the cable network), and wherein an upstream scheduling

message includes a plurality of information elements (1Es) (page 206 section: Ranging,

CM transmits ranging request MAP message), the cable modem comprising: adapted to

obtain a scheduling message from a CMTS (page 205 section: Obtain Upstream Parameters, the CM is looking for MAC messages that are repeatedly sent by the CMTS on all DOCSIS downstream channels); adapted to filter the scheduling message obtained, generating a plurality of 1Es that are associated with a selected cable modem is anticipated by (page 205 section: Channel Acquisition) the modem first scans for a downstream channel, obtains QAM lock, and finds MPEG packets with the DOCSIS well known PID.

Claim Rejections - 35 USC § 103

1.　　The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.　　This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 4, 5, 6, 7, 8, 9, 12, 13, 24, 28, 31, 34, 44, 46 are rejected under 35 U.S.C.

103(a) as being unpatentable over Fellows in view of Bestler et al. (US PAT 5546119),

hereinafter referred to as Bestler, in view of "Supporting MPEG video transport on

DOCSIS-compliant cable networks", Bushmitch et al. Communications, IEEE Journal

on Publication Date: Sept. 2000, hereafter referred to as Bushmitch, in view of Bernath

et al. (US PAT 6629288), hereinafter referred to as Bernath

In regards to claims 7, 8, 9, 24, 31, 46 Fellows teaches a cable modem system

as described in the rejections of claims 1, 2, 3, 25, 26, 27, 30, 32, 33, 36, 37, 39, 40, 41,

42, 43 above.

In regards to claims 24, 31, 46 Fellows does not explicitly teach a scheduling

device, a filtering device and a storage device, with storage device adapted to store

information set based upon the plurality of IEs generated by the filtering device. In

regards to claim 7, 8 Fellows does not explicitly teach the filtering step is implemented

using software instructions executed by a processing device. In regards to claim 9,

Fellows does not explicitly teach the sub-step of filtering the scheduling message for

well-known addresses is implemented in software, and wherein the sub-step of filtering

for 1Es associated with the selected subscriber unit is implemented in hardware.

In regards to claims 24, 31, 46 Bestler teaches a scheduling device (figure 1,

element 12), a filtering device (figure 1, element 40) and a storage device, with storage

device (figure 2, elements 130, 135) adapted to store an information set (column 6 lines

8-10, storing the sixteen-bit time slot identifying number which is uniquely assigned to transmitter 50 within memory) based upon the plurality of IEs generated by the filtering device. . In regards to claim 7, 8, 9 Bestler teaches the filtering step is implemented using software instructions executed by a processing device and the sub-step of filtering the scheduling message for well-known addresses is implemented in software, and wherein the sub-step of filtering for 1Es associated with the selected subscriber unit is implemented in hardware. (figure 1 element 40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Fellows by incorporating Bestler's description of an upstream data transmission system. The motivation is that (as per Bestler, column 2 lines 22-26) Bestler provides an improved upstream data transmission system for cable television, which is able to respond dynamically to operating changes within the cable television system using headend controlled programmable system parameters.

In regards to claims 4, 5, 6, 12, 13, 28, 34, 44 Fellows, in view of Bestler teaches storing an information set as described above.

In regards to claims 4, 5, 6, 12, 13, 14, 28, 34, 44 Fellows, in view of Bestler does not explicitly teach the information set includes a transmit time, a transmit duration and an Interval Usage Code (IUC). In regards to claims 12, 13 Fellows, in view of Bestler does

not explicitly teach an IE of the MAP message includes a service identifier (SID), an interval Usage Code (1UC), a Minislot offset and a Minislot length value.

In regards to claims 4, 5, 6, 12, 13, 14, 28, 34, 44 Bushmitch teaches (page 1582 and figure 2) the MAP message containing a list of time intervals, the interval usage code (IUC), start time for transmission. In regards to claims 12, 13 Bushmitch teaches (page 1582 and figure 2) an IE of the MAP message includes a service identifier (SID), an interval Usage Code (1UC), a Minislot offset.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fellows, in view of Bestler's teaching to incorporate the IE elements from the MAP message (as taught by Bushmitch) to be stored as information set. The motivation is that (as taught by Bushmitch, page 1582) the CM must be able to time its transmission precisely so that data arrive at the CMTS at the beginning of the assigned interval. As such, these information are required.

4.   Claims 11, 29, 35 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fellows in view Bernath.

In regards to claims 11, 29, 35 and 45 Fellows teach of a cable modem system as described in the rejections of claim 1, 25, 32, and 40 above.

In regards to claims 11, 29, 35 and 45 Fellows does not explicitly teach the step of obtaining a scheduling message includes the step of performing an DMA/CRC

operation on the scheduling message to align the scheduling message on selected D-word boundaries.

In regards to claims 11, 29, 35 and 45 Bernath teaches (column 5 lines 15-18) the DES/CRC engine 124 is capable of performing DES encryption or decryption, and/or frame-length CRC operations on a stream of data supplied by a DMA controller 116. Bernath teaches (column 8 lines 48-50) Data of varying sizes may be provided to the data register 104. For example, any byte, word, or dword write to the data register 104 may be defined as legal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fellows teaching by incorporating the teachings of Bernath of doing CRC/DMA and dword related operation. The motivation is that (as suggested by Bernath, column 3 lines 13-19) use of the CRC engine improves the overall performance of a cable modem incorporating programmable MAC or similar functionality. The programmable nature of the CRC engine further permits compliance with a wide variety of standards, including evolving standards such as DOCSIS, without requiring expensive hardware upgrades.

5.   Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fellows in view of Lu (US PAT 5910970).

In regards to claim 38 Fellows teach of a cable modem system as described in the rejections of claim 1, 25, 32, and 40 above.

In regards to claim 38 Fellows does not explicitly teach the system can be a DSL modem system.

In regards to claim 38 Lu teaches, (column 11, lines 10-15) in the near-term, the following situations will predominate, but these combinations will expand as DSP MIPS capabilities increase as a natural progression in the semiconductor industry: multiple voice-band modems in same DSP; voice-band and DSL modems in same DSP; voice-band and cable modems in same DSP; multiple DSL modems in same DSP; multiple cable modems in the same DSP; and/or any combination of the above.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fellows teaching by incorporating the DSL modem being the system as taught by Lu. The motivation is that (as suggested by Lu, column 11, lines 10-15) in the near-term, the following situations will predominate, but the combinations will expand as DSP MIPS capabilities increase as a natural progression in the semiconductor industry: multiple voice-band modems in same DSP; voice-band and DSL modems in same DSP; voice-band and cable modems in same DSP; multiple DSL modems in same DSP; multiple cable modems in the same DSP; and/or any combination of the above

Allowable Subject Matter

6.   Claims 10, 14-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7.   Prior art pertinent to the application but not used in office action:

- US 4553161 A   USPAT   Upstream data packet time slot
  synchronization with downstream VBI for two-way CATV system   Citta;
  Richard W.

- US 5570347 A   USPAT   Upstream data transmission system with
  downloadable transmission parameters Bestler; Caitlin B. et al.

- US 5745837 A   USPAT   Apparatus and method for digital data
  transmission over a CATV system using an ATM transport protocol and SCDMA
  Fuhrmann; Amir Michael

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Salman Ahmed whose telephone number is (571)272-

8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Salman Ahmed
Examiner
Art Unit 2666

SA

FRANK DUONG
PRIMARY EXAMINER